CHAPTER – 3

METHODOLOGY

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CHAPTER – 3
METHODOLOGY

3.1. Statement of the problem:-

“To compare study habits, self-concept and academic achievement among high school students”

3.2. Objectives:-

1. To ascertain the difference between rural and urban students on their measure of study habits.

2. To compare the girls & boys students on their study habits.

3. To study the effect of interaction between inhabitance and gender to determine students’ study habits.

4. To investigate the variance in academic achievement of students in relation to their inhabitance.

5. To explore the variation in academic achievement of students in relation to their gender difference.

6. To study the effect of interaction between inhabitance and gender to determine students’ academic achievement.
7. To ascertain the difference between rural and urban students on their measure of Overall Self Concept as well as its’ different dimensions namely Physical, Social, Moral, Intellectual, Temperamental and Educational Self Concept.

8. To compare the girls & boys students on their Overall Self Concept as well as on its’ different dimensions namely Physical, Social, Moral, Intellectual, Temperamental and Educational Self Concept.

9. To study the effect of interaction between inhabitance and gender to determine students’ Overall Self Concept as well as its’ different dimensions namely Physical, Social, Moral, Intellectual, Temperamental and Educational Self Concept.

3.3. Hypotheses:–

1. Students belonging to urban and rural localities are not significantly different in their study habits.

2. Male and female school going adolescents are significantly different in their study habits.

3. Male and female belonging to urban and rural localities are not significantly different in their study habits.
4. Students belonging to urban and rural localities are not significantly different in their academic achievement.

5. Male and female are significantly different in their academic achievement.

6. There is significant difference in academic achievement of students belong to urban and rural localities in relation to their gender difference.

7. There is no significant effect of inhabitance (urban and rural) on students’ Physical, Social, Moral, Intellectual, Temperamental, Educational as well as on Overall Self Concept.

8. Male and female adolescents are significantly different on their Physical, Social, Moral, Intellectual, Temperamental, Educational as well as on Overall Self Concept.

9. The effect of interaction between inhabitance and gender is significant on adolescents’ Physical, Social, Moral, Intellectual, Temperamental, Educational as well as on Overall Self Concept.
3.4. Methods and procedure

3.4.1. Research type:-

Non experimental: survey research (Casual Comparative Research)

3.4.2. Sample:-

The total sample comprised of school students with age rang 13 to 16 years. From Beed district (marathawada) region. The whole sample consist of total 600 students with equal number of boys (n=300) and girls (n=300). Both subgroups were made with equal number of students belong to urban & rural community. To select the sample randomized sampling technique was used in the present study. The efforts was made to select the sample as representative as possible in terms of socio-economic status and family type. All students were selected form Marathi medium schools. The sample distribution is depicted as follows;
Table 3.1

Sample Distribution

<table>
<thead>
<tr>
<th>Inhabitance</th>
<th>Gender(B)</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boy</td>
<td>Girl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A)</td>
<td>N = 150</td>
<td>N = 150</td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Urban</td>
<td>N = 150</td>
<td>N = 150</td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Rural</td>
<td>N = 150</td>
<td>N = 150</td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>300</td>
<td></td>
<td>600</td>
</tr>
</tbody>
</table>
### 3.4.3. Research Design:-

As per objective 2 X2 factorial design as depicted below was used for the current study

#### Table 3.2

2×2 factorial design

<table>
<thead>
<tr>
<th>Inhabitance</th>
<th>Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(B)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td>Urban</td>
<td>EXP. Gr. 1</td>
<td>EXP. Gr. 2</td>
</tr>
<tr>
<td></td>
<td>N = 150</td>
<td>N = 150</td>
</tr>
<tr>
<td>Rural</td>
<td>EXP. Gr. 3</td>
<td>EXP. Gr. 4</td>
</tr>
<tr>
<td>(A2)</td>
<td>(A1B1)</td>
<td>(A1B1)</td>
</tr>
<tr>
<td></td>
<td>N = 40</td>
<td>N = 150</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>300</td>
</tr>
</tbody>
</table>
Where

A1 – Students belong to urban area.
A2 – Students belong to rural area
B1 – Boy students
B2 – Girl students
A1B1 – Boy students belong to urban area.
A1B2 – Girl students belong to urban area.
A2B1 - Boy students belong to rural area.
A2B2 - Girl students belong to rural area.

3.4.4. Variables:-

Considered variables were treated as follows:

*Independent variable:-*

- Inhabitance- A
  - Urban – A1
  - Rural – A2
- Gender- B
  - Boys – B1
  - Girls – B2
Dependent variable: -

- Study habits
- Self-concept
- Academic achievement

3.4.5. Operational definitions: -

The operational definition of the various independent and dependent variable, which were used in present study, is as follow:

**Self-Concept**: It means the category of self-concept on overall self-concept & its dimensions, which will be assessed by self-concept questionnaire of R.K. Saraswat (1984).

**Adolescent**: In the present study adolescents will be defined on the basis of their class in which they study. Students of class 8th to 10th are symbolized as adolescents.

**Gender**: In this study Gender refers specifically to the biological characteristics, which indicate membership in one of two categories: Male or Female.

**Inhabitance**: In this study inhabitance refer specifically to the living area (diverse in their geography, economic base, demographics, and development) whether it comes under city or outside cities or towns namely Urban and Rural.
Study habit: The Study habit decided as per study habit and Attitude developed by C.P.Mathur.

Academic Achievement: The percentage of the total marks obtained by the students in their final exam of previous academic year.

3.4.6. Research Tests:-

Table 3.3
List of Tests

<table>
<thead>
<tr>
<th>Aspect studies</th>
<th>Test and scale</th>
<th>Developed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic Characteristic</td>
<td>Demographic Sheet</td>
<td>Self (2013)</td>
</tr>
<tr>
<td>Study Habits</td>
<td>Test of Study Habits and Attitudes</td>
<td>C.P. Mature</td>
</tr>
<tr>
<td>Self-Concept</td>
<td>Self-Concept Questionnaire</td>
<td>R.K. Saraswat</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>Obtained scores in Final Exams in previous standard/year</td>
<td></td>
</tr>
</tbody>
</table>
3.4.7. Description of tests:-

Demographic sheet

Demographic sheet was used to collect demographical and personal information about adolescents’ class, area, gender, age, educations, SES etc.

Study Habits and Attitudes

Test of study habits and attitudes constructed by Dr. C.P Mathur was used which is based on nine major areas of study techniques, habits and attitudes viz attitude towards teachers; school and home environment; attitude towards education; study habits; mental conflict; concentration; home assignment; self-confidence; and examination. This test is intended for use with school, college and university students ranging from age 13+ years to adulthood. This test contains sixty items seeking responses in ‘yes’, ‘doubtful’ and ‘no’.

Responses are obtained on a separate answer sheet and the test booklet can be used over and over again. A high score on this test indicates high order of correct study habits and proper attitudes, while a low score shows poor study techniques. A set of two scoring key is provided for scoring the responses. Scoring key ‘A’ is meant to score the correct study habits and scoring key ‘B’ to know the items and corresponding areas in which the student needs guidance.
Distribution of 60 items in their respective areas is depicted below in the table

<table>
<thead>
<tr>
<th>S.No</th>
<th>Areas</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attitude towards teachers</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>School and home environment</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Attitude towards education</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Study habits</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>Mental conflict</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Concentration</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>Home assignment</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Self confidence</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Examination</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60</td>
</tr>
</tbody>
</table>

The reliability of the test was established by test-retest method. Reliability coefficient for age groups 13+ and 16+ and 16+ and above was found to be 0.87 and 0.89 respectively. The test has been validated with two sets of study habits as well as with achievement (academic) scores. The coefficients were found to be 0.63 and 0.65 respectively. The test is non-time. Generally 40 minutes have been found sufficient to deliver necessary instructions and obtain the responses.
The Self-Concept Questionnaire by Dr.R.K.Saraswat (1984) was used which provides six dimensions viz. Physical, Social, Intellectual, Moral, Educational, and Temperamental as well as a Total Self-Concept score. It is a 5-Point scale with 48-item questionnaire. There is no time limit but generally 20 minutes have been found sufficient for responding to all the items. The respondent is provided with five alternatives to give their response ranging from most acceptable to least acceptable description of their self-concept. The alternatives or responses are arranged in such a way that the scoring system for all items remains the same i.e. 5, 4, 3, 2, 1 whether the item is positive or negative. The scores of the items within each dimension are added separately; and the sum of the scores on all the 48 items provides the total self-concept score of an individual. A higher score indicates a higher self-concept, while a low score was an indication of low self-concept.

The operational definitions of Self-Concept dimensions measured by this inventory are:

1. **Physical**: Individuals’ view of their body, health, physical appearance and strength.
2. **Social**: Individuals’ sense of worth in social interactions.
3. **Temperamental**: Individuals’ view of their prevailing emotional state or the dominance of particular kind of emotional reactions.
4. **Educational**: Individuals’ view of themselves in relation to schools, teachers and extra-curricular.

5. **Moral**: Individuals’ estimation of their moral worth; right and wrong activities.

6. **Intellectual**: Individuals’ awareness of their intelligence and capacity of problem solving and judgment.

Test – Retest reliability of this questionnaire is 0.91. Reliability coefficients of its dimensions vary from 0.67 to 0.80. Responses are obtained on the test booklet itself.

**The next table gives the item numbers included in the respective Self-concept dimension**

**Table 4-4**

**Self-concept dimensions – Item numbers**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Item Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical (P)</td>
<td>2, 3, 9, 20, 22, 27, 29, 31</td>
</tr>
<tr>
<td>Social (S)</td>
<td>1, 8, 21, 37, 40, 43, 46, 48</td>
</tr>
<tr>
<td>Temperamental (T)</td>
<td>4, 10, 14, 16, 19, 23, 24, 28</td>
</tr>
<tr>
<td>Educational (E)</td>
<td>5, 13, 15, 17, 25, 26, 30, 32</td>
</tr>
<tr>
<td>Moral (M)</td>
<td>6, 34, 35, 41, 42, 44, 45, 47</td>
</tr>
<tr>
<td>Intellectual (I)</td>
<td>7, 11, 12, 18, 33, 36, 38, 39</td>
</tr>
</tbody>
</table>
**Academic Achievement**

In the absence of any standardized academic performance test, percentage of the marks obtained at the last year grade examination held on prescribed syllabus was considered as academic performance scores as these scores were found to be bet representative of the students’ academic achievement.

**3.5 Procedures of data collection:**

At initial level list of various schools situated in rural and urban area of Maharashtra was prepared. For the selection of the sample various schools were visited one by one. The written permission was sought out from the respective Principals after discussing the purpose of the present study. In order to finalize initial sample students of each school were requested to fill the personal information schedule. On the basis of their information on personal schedule both urban and rural students were randomly assigned into four experimental groups namely A1B1 (Boy students belong to urban area), A1B2 (Girl students belong to urban area), A2B1 (Boy students belong to rural area) and A2B2 (Girl students belong to rural area). Hence all four experimental groups were constituted as per sample distribution criteria. To obtain the data, selected students were administrated on the

These tests were administrated one at a time in order to reduce fatigue and boredom effect. To fill the tests subjects were given general
instructions about each test. Data were obtained by using particular scoring pattern standardized for each test.

### 3.6. Statistical Analysis:

The data were analyzed as follows:

**Descriptive analysis**

The mean (with graphical representation) and standard deviation for Inhabitance (Urban & Rural) and for Gender (Boys & Girls) on all measurable variables namely study habits, self-concept and academic achievement were analyzed.

**Inferential Analysis**

To study the difference between urban and rural students and also the difference between boys and girls students on their measure of study habits, self-concept and academic achievement 2X2 way analysis of variance (ANOVA) was employed.